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Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	7614	polarizing adj beam adj splitter	US-PGPUB; USPAT	OR	OFF	2007/09/29 20:21
L2	388	station and L1	US-PGPUB; USPAT	OR	OFF	2007/09/29 20:21
L3	463	706/15.ccls.	US-PGPUB; USPAT	OR	OFF	2007/09/29 20:21
L4	0	706/15.ccls. and (quantum adj game)	US-PGPUB; USPAT	OR	OFF	2007/09/29 20:23
L5	296	257/9.ccls.	US-PGPUB; USPAT	OR	OFF	2007/09/29 20:23
L6	0	257/9.ccls. and (quantum adj game)	US-PGPUB; USPAT	OR	OFF	2007/09/29 20:23
L7	18	977/755.ccls.	US-PGPUB; USPAT	OR	OFF	2007/09/29 20:24
L8	0	977/755.ccls. and game	US-PGPUB; USPAT	OR	OFF	2007/09/29 20:24
L9	0	977/755.ccls. and (quantum adj game)	US-PGPUB; USPAT	OR	OFF	2007/09/29 20:24
L10	115	977/762.ccls.	US-PGPUB; USPAT	OR	OFF	2007/09/29 20:24
L11	1	977/762.ccls. and game	US-PGPUB; USPAT	OR	OFF	2007/09/29 20:24
L12	0	977/762.ccls. and (quantum adj game)	US-PGPUB; USPAT	OR	OFF	2007/09/29 20:25
S1	0	public adj good adj game	US-PGPUB; USPAT	OR	OFF	2007/09/29 20:02
S2	2	quantum adj game	US-PGPUB; USPAT	OR	OFF	2007/09/29 20:02
S3	545	quantum adj information	US-PGPUB; USPAT	OR	OFF	2007/09/29 20:03
S4	29	S3 and game	US-PGPUB; USPAT	OR	OFF	2007/09/29 20:03
S5	0	S4 and (entangle\$3 adj state)	US-PGPUB; USPAT	OR	OFF	2007/09/29 20:03
S6	6	(two adj particle) and (entangle\$3 adj state)	US-PGPUB; USPAT	OR	OFF	2007/09/29 20:05
S7	2	((pairwise pair-wise round-robin) near2 entangle\$3)	US-PGPUB; USPAT	OR	OFF	2007/09/29 20:04
S8	2032	(optical adj (network system)) and stations and channels	US-PGPUB; USPAT	OR	OFF	2007/09/29 20:04

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S9	5	(optical adj (network system)) and stations and channels and (photon adj source)	US-PGPUB; USPAT	OR	OFF	2007/09/29 20:06
S10	7614	polarizing adj beam adj splitter	US-PGPUB; USPAT	OR	OFF	2007/09/29 20:06
S11	8730	(superconducting adj quantum adj interference adj devices) SQUIDS (NMR adj systems) (individual adj (atoms molecules ions)) ((cavity adj quantum adj electro-dynamic) QED adj systems) (photonic adj systems)	US-PGPUB; USPAT	OR	OFF	2007/09/29 20:07
S12	1	S11 and S2	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/09/29 20:20
S13	388	station and S10	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/09/29 20:21
S14	14	station same S10	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/09/29 20:09
S15	2	(state adj vector) and S2	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/09/29 20:08
S16	0	(state adj vector) and (plurality near pairs near2 entangled near2 qubits) and (N adj pairs) and (2N adj operators) and (probabiltiy and cooperative adj effort) and players. clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/09/29 20:11
S17	0	(state adj vector) and (plurality near pairs near2 entangled near2 qubits) and (N adj pairs) and (2N adj operators) and (probabiltiy and cooperative adj effort) and players. clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/09/29 20:12

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S18	0	(state adj vector) and (plurality near pairs near2 entangled near2 qubits) and (N adj pairs) and (2N adj operators) and (probabiltiy and cooperative adj effort) and players. clm.	US-PGPUB; USPAT	OR	OFF	2007/09/29 20:13
S19	1	(source near2 (multiple adj channels)) and (entangle\$3 adj photon adj pairs) and (plurality near2 stations) and players and (optical adj network).clm.	US-PGPUB; USPAT	OR	OFF	2007/09/29 20:14



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Gus Gutoski, John Watrous

June 2007 **Proceedings of the thirty-ninth annual ACM symposium on Theory of computing STOC '07**

Publisher: ACM Press

Full text available: pdf(244.17 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

We study properties of quantum strategies, which are complete specifications of a given party's actions in any multiple-round interaction involving the exchange of quantum information with one or more other parties. In particular, we focus on a representation of quantum strategies that generalizes the Choi-Jamiołkowski representation of quantum , with respect to which each strategy is described by a single operations. This new representation associates with each strategy a positive semidefini ...

Keywords: Choi-Jamiołkowski representation, coin-flipping, interactive proof systems, quantum game theory, quantum strategies

2 Special section on impact of quantum technologies on networks and networking

research: Quantum networks: from quantum cryptography to quantum architecture

Tatjana Curcic, Mark E. Filipkowski, Almadena Chtchelkanova, Philip A. D'Ambrosio, Stuart A. Wolf, Michael Foster, Douglas Cochran

October 2004 **ACM SIGCOMM Computer Communication Review**, Volume 34 Issue 5

Publisher: ACM Press

Full text available: pdf(221.26 KB) Additional Information: [full citation](#), [abstract](#), [references](#)

As classical information technology approaches limits of size and functionality, practitioners are searching for new paradigms for the distribution and processing of information. Our goal in this Introduction is to provide a broad view of the beginning of a new era in information technology, an era of quantum information, where previously underutilized quantum effects, such as quantum superposition and entanglement, are employed as resources for information encoding and processing. The ability t ...

3 Contributed session 3: Knowledge in quantum systems

R. van der Meyden, Manas Patra

June 2003 **Proceedings of the 9th conference on Theoretical aspects of rationality and knowledge TARK '03**

Publisher: ACM Press

Full text available:  [pdf\(1.09 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This paper applies to quantum systems a modelling for the logic of knowledge, originally developed for reasoning about distributed systems, but since then applied to game theory, computer security and artificial intelligence. A formal model of quantum message passing systems is developed and the question of how one might define the semantics of a modal operator for knowledge in this model is considered. It is argued that there are at least two plausible semantics, depending on whether the agents ...


4 [Complexity theory: Guest Column: NP-complete problems and physical reality](#)



Scott Aaronson

March 2005 **ACM SIGACT News**, Volume 36 Issue 1

Publisher: ACM Press

Full text available:  [pdf\(918.92 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Can NP-complete problems be solved efficiently in the physical universe? I survey proposals including soap bubbles, protein folding, quantum computing, quantum advice, quantum adiabatic algorithms, quantum-mechanical nonlinearities, hidden variables, relativistic time dilation, analog computing, Malament-Hogarth spacetimes, quantum gravity, closed timelike curves, and "anthropic computing." The section on soap bubbles even includes some "experimental" results. While I do not believe that any of ...


5 [Communicating quantum processes](#)



Simon J. Gay, Rajagopal Nagarajan

January 2005 **ACM SIGPLAN Notices , Proceedings of the 32nd ACM SIGPLAN-SIGACT symposium on Principles of programming languages POPL '05**, Volume 40 Issue 1

Publisher: ACM Press

Full text available:  [pdf\(247.88 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We define a language CQP (Communicating Quantum Processes) for modelling systems which combine quantum and classical communication and computation. CQP combines the communication primitives of the pi-calculus with primitives for measurement and transformation of quantum state; in particular, quantum bits (qubits) can be transmitted from process to process along communication channels. CQP has a static type system which classifies channels, distinguishes between quantum and classical data, and co ...

Keywords: formal language, quantum communication, quantum computing, semantics, types, verification

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Publisher: ACM Press

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This paper applies to quantum systems a modelling for the logic of knowledge, originally developed for reasoning about distributed systems, but since then applied to game theory, computer security and artificial intelligence. A formal model of quantum message passing systems is developed and the question of how one might define the semantics of a modal operator for knowledge in this model is considered. It is argued that there are at least two plausible semantics, depending on whether the agents ...

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C Schuck, G Huber, C Kurtsiefer, H Weinfurter - Physical Review Letters, 2006 - APS

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or to serve as a truly efficient judge in novel **quantum game** protocols [28 ...

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 payoff during the game. The generalization for the **N players** case is obvious. ...

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Q Chen, Y Wang, JT Liu, KL Wang - Physics Letters A, 2004 - Elsevier

... In minority game, there are **N players** and each player privately chooses two
 alternatives ... but the difference between the expected payoff of **quantum game** and that ...

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KY Chen, T Hogg, R Beausoleil - Quantum Information Processing, 2002 - Springer
 ... the choices in the original game, the final result of the **quantum game** will, with ...
 However, scaling a fully entangled game from 2 to **n players** can be nontrivial ...

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J Sladkowski - Physica A: Statistical Mechanics and its Applications, 2003 - Elsevier
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BA Huberman, T Hogg - Quantum Information Processing, 2003 - Springer

... this quantum coordination mechanism applies to more complicated games with correlated
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SK Ozdemir, J Shimamura, F Morikoshi, N Imoto - Arxiv preprint quant-ph/0311074, 2003 - arxiv.org

... have been shown to be very different from those of their classical counterparts,
 eg the dilemma of the prisoners have been resolved in the **quantum game**. ...

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K Miakisz, EW Piotrowski, J Sladkowski - Theoretical Computer Science, 2006 - Elsevier

... would like to convince the reader that the research on **quantum game** theory cannot ...
Therefore, it is sufficient to describe a collective tactic of **N players** as a ...
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